

ABSTRACT OF THE DISCLOSURE

A non-invasive subject-information imaging apparatus according to this invention includes a light generating unit which generates light containing a specific wavelength component, a light irradiation unit which radiates the generated light into a subject, a waveguide unit which guides the light from the light generating unit to the irradiation unit, a plurality of two-dimensionally arrayed electroacoustic transducer elements, a transmission/reception unit which transmits ultrasonic waves to the subject by driving the electroacoustic transducer elements, and generates a reception signal from electrical signals converted by electroacoustic transducer elements, and a signal processing unit which generates volume data about a living body function by processing a reception signal corresponding to acoustic waves generated in the subject by light irradiation, and generates volume data about a tissue morphology by processing a reception signal corresponding to echoes generated in the subject upon transmission of the ultrasonic waves.